

Lemieux, Paul

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**From:** Lemieux, Paul  
**Sent:** Wednesday, April 15, 2020 6:05 AM  
**To:** Perrin, Rebecca  
**Cc:** Marguerite Tan; Miller, Lori P APHIS; Miknis, Robert A APHIS; Serre, Shannon; Ryan, Shawn; Jakabhazy, Elise; Snyder, Emily  
**Subject:** RE: EPA Programs for mortality disposal  
**Attachments:** ASFv Biosecurity Decon Conference r5.pdf

d\plainRebecca:

d\plain

d\plainIt was good to hear from you. We have lately been working with USDA/APHIS, VA DEQ, and NCDA&CS on the use of horizontal grinders (large industrial scale wood chippers) for doing size reduction on swine mortalities in preparation for on farm composting should the African Swine Fever Virus (ASFv) outbreak reach the US. We at EPA have been working on the biosecurity aspects of it, so that APHIS could include such considerations into their SOPs as distance from fenceline to set up the grinding operation, or maximum wind speed before you don't start grinding, so that viral particles don't reach the neighboring farms. I can't remember who all the industry participants are in the effort. On EPA's side of things, it's been ORD, OEM/CMAD, and ORCR participating in the tests. OAQPS is doing air modeling of our results. We used pig DNA as the surrogate target analyte (we did not test with any infected carcasses). Once we get the air modeling results, we're going to work with APHIS risk assessors to convert the pig DNA air concentrations and downwind deposition concentrations into infectious dose.

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d\plainOther aspects of the tests were being managed by the other partners that we were working with on the project. We got about 1.3 million pounds per day of swine mortalities through a 750 HP grinder, mixed 50/50 with carbon source (wood chips were primarily what we used). They then took the mixture of ground up pigs and carbon and laid it out on a bed of more carbon source and built the windrows for composting. These tests were all done at the NC Horticultural Research Center in Clinton, NC. I haven't seen the temperature data from the temperature probes in the windrows, but preliminary tests that VA DEQ did suggested that internal windrow temperatures were well above targeted levels. APHIS has been taking the results from these tests and building an SOP that includes such considerations as the grinder screen size, what heavy equipment to use for the operation, specs for the bed of carbon to position the grinder on, etc.

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20-06522\_000153

d\plainThey make models of these grinders at about 500, 750, and 1000 HP sizes – apparently the 1000 HP ones are somewhat rare, but the other sizes are plentiful all over the country, and we didn't see a heck of a lot of difference in the throughput of the 2 sizes we tested (750 and 1000 HP). One of the things we are still planning on doing is coming up with a procedure for cleaning and disinfection of the grinder following its use. They did pressure washing and it worked, but the process wasn't formally merged into the SOP.

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d\plainAttached is a presentation we did at our Decontamination R&D Conference last November on the project. We have some videos from the tests that we'd be happy to show, but the industry requested we not distribute them.

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d\plainThe APHIS people we've been working with would probably be able to send you the draft SOP they've been working on. I cc'd them on this – carcass disposal is primarily in APHIS' lane and EPA is a support Agency under ESF 11. Since the animal mortalities in question that Marguerite mentioned aren't diseased, the biosecurity issues aren't as important as they would be from an ASFv outbreak. If these plant shutdowns due to COVID 19 are going to create surge capacity issues for their normal disposal pathways (e.g., rendering), this seems like a viable alternative. They will also have information on the depopulation aspects of the problem – we haven't really done anything on the depopulation side of things.

d\plain

d\plainThe contact info for the APHIS folks is:

d\plain

d\plainLori Miller

[d\plainlori.p.miller@usda.gov](mailto:lori.p.miller@usda.gov)

d\plain301 851 3512

d\plain

d\plainand

d\plain

d\plainRobert Miknis

[d\plainrobert.a.miknis@usda.gov](mailto:d\plainrobert.a.miknis@usda.gov)

d\plain970 494 7471

d\plain

d\plainRob is based in Denver.

d\plain

d\plainIf you'd like us to set up a Skype call to discuss please let me know.

d\plain

d\plainPaul M. Lemieux, PhD  
Senior Research Engineer  
US EPA Office of Research and Development  
Center for Environmental Solutions and Emergency Response

d\plainSystems Tools & Materials Management Branch  
NHSRC/DCMD  
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[https://www.epa.gov/homeland\\_security\\_research](https://www.epa.gov/homeland_security_research)

d\plain

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**d\plainFrom:** Perrin, Rebecca <Perrin.Rebecca@epa.gov>  
**Sent:** Tuesday, April 14, 2020 6:22 PM

**To:** Lemieux, Paul <Lemieux.Paul@epa.gov>  
**Cc:** Marguerite Tan <mtan@pork.org>  
**Subject:** FW: EPA Programs for mortality disposal  
**Importance:** High

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d\plainPaul,

d\plain

d\plainThank you for the very useful conversation today. Can you share information with Marguerite to help address her questions below. I also appreciate you sharing contacts with her at APHIS and states who worked on your project.

d\plain

d\plainThanks.

d\plain

d\plainRebecca Perrin

d\plainRegion 8 Agriculture Advisor | Office of the Regional Administrator | USEPA

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d\plain

d\plain

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**d\plainFrom:** Marguerite Tan <[mtan@pork.org](mailto:mtan@pork.org)>  
**Sent:** Tuesday, April 14, 2020 1:34 PM  
**To:** Perrin, Rebecca <[Perrin.Rebecca@epa.gov](mailto:Perrin.Rebecca@epa.gov)>  
**Subject:** EPA Programs for mortality disposal



d\plain

d\plainRebecca,

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d\plainI am working on a resource guide for pig farmers who will most likely be facing the need to thin/depopulate herds if processing plants continue to close. We are asking pig farmers to plan ahead and get in contact with local and state agencies prior to needing to thin/depopulate their herds.

d\plain

d\plainDoes EPA have any resources available (on a federal or regional basis) to assist producers in these depopulation situations? Or is there anything from the EPA side that I should include in the producer resource guide?

d\plain

d\plainThanks!

d\plainM.

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d\intbl\plainMarguerite A. Tan

d\intbl\plainDirector of Environmental Programs

d\intbl\plainNational Pork Board

d\intbl\plain

d\intbl\plainMobile 217 898 0661 | Email [mtan@pork.org](mailto:mtan@pork.org)

d:\ntbl\plain1776 NW 114<sup>th</sup> St., Clive, IA 50325



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# **Assessment of the Biosecurity of Animal Mortality Size Reduction Using Horizontal Grinders Prior to On-Farm Composting**

Paul Lemieux, Worth Calfee, Joe Wood, Shannon Serre, David Ferguson, Anna Tschursin – US EPA

Preston Burnette – Jacobs

Gary Flory – Virginia DEQ

Michael Mayes – NC Dept of Agriculture and Consumer Services

Lori Miller, Robert Miknis – USDA/APHIS

2019 EPA International Decontamination Research and Development Conference  
Norfolk, VA; November 19-21, 2019



## African Swine Fever

- \$40 Billion Industry in US
- Hemorrhagic fever (similar to Ebola virus) but only affects pigs (i.e., humans can't catch it)
- Highly contagious to pigs
- Viral disease
  - Double enveloped virus
  - High to low pathogenic strains
- Transmission
  - Direct contact with bodily fluids
  - Ingestion of contaminated pork products
  - Feral swine
  - Clothing, vehicles, equipment
  - Biological transport by soft ticks and other insects





## African Swine Fever Outbreak Mitigation Efforts

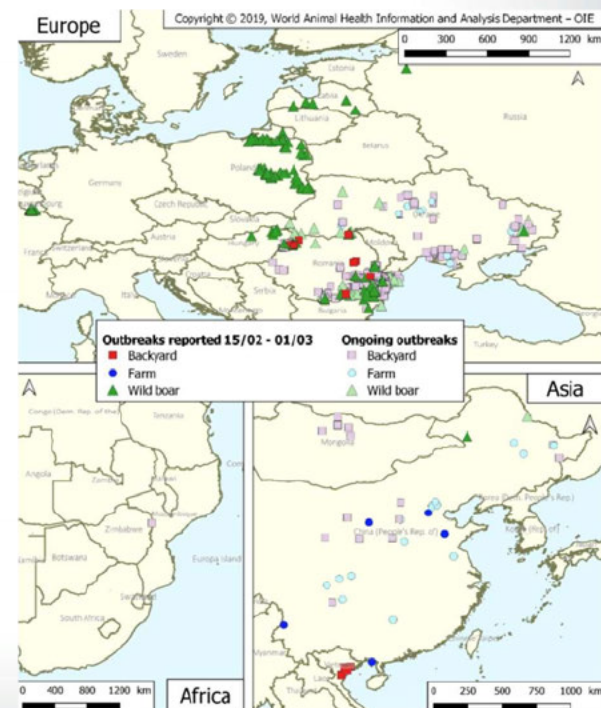
- Rapid depopulation
- May include feral swine in impacted area
- Controlled swine movement (~1 million pigs/day)
- Mortality management
- Inactivation of virus
  - 70 °C (160 °F) for 30 minutes
  - Hydrogen peroxide
  - Virkon S
  - Peracetic acid
  - Citric acid
  - Household bleach





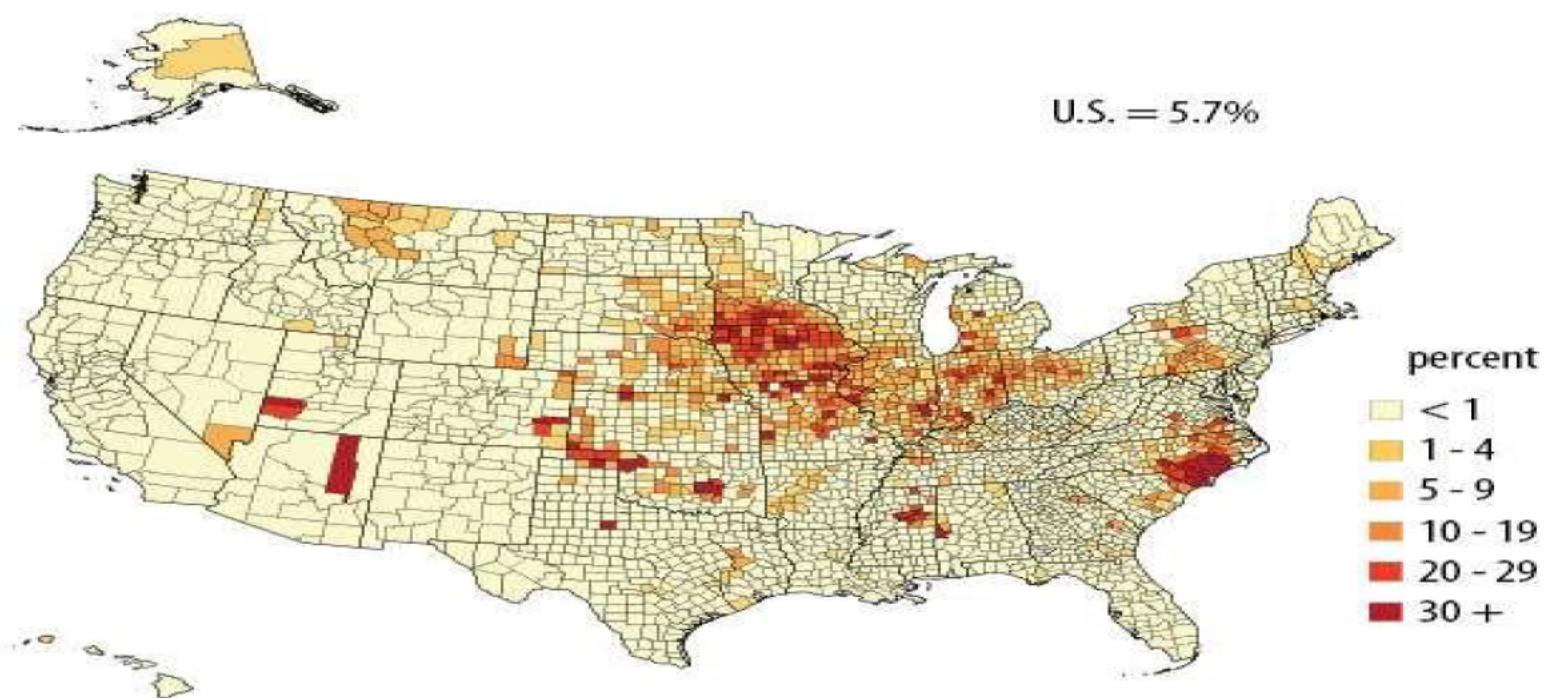
## Current Outbreak

- Started in Eastern Europe
- Spread across Asia and into Belgium
- Serious concern from USDA/APHIS, states, and pork industry of potential outbreak in U.S.
- EPA is support agency to USDA agricultural depopulation, decontamination, and disposal mission under ESF #11
- NHSRC currently has an IA with USDA to evaluate grinding as pre-treatment for carcass disposal
- Joint group (APHIS, VA DEQ, NC DEQ, NC Dept. Ag, EPA, industry) focused on mortality management and ASF





## Hog and Pig Sales as Percent of Agriculture Sales, by County, 2012



Source: USDA NASS, 2012 Census of Agriculture.



## Mortality Management Approaches

- Potential need for 3 million lb/day disposal capacity
- Safe, on-farm management is preferred; composting is popular management technology in NC and other states
- Composting whole large animals can take up to a year; grinding can reduce the time to a month
- Grinding equipment such as that used in rendering plants has high capacity but limited availability and long lead time
- Evaluation of horizontal grinders (big industrial scale wood chippers) to grind carcasses, along with a carbon source, prior to composting
  - Evaluation of biosecurity of grinding operations







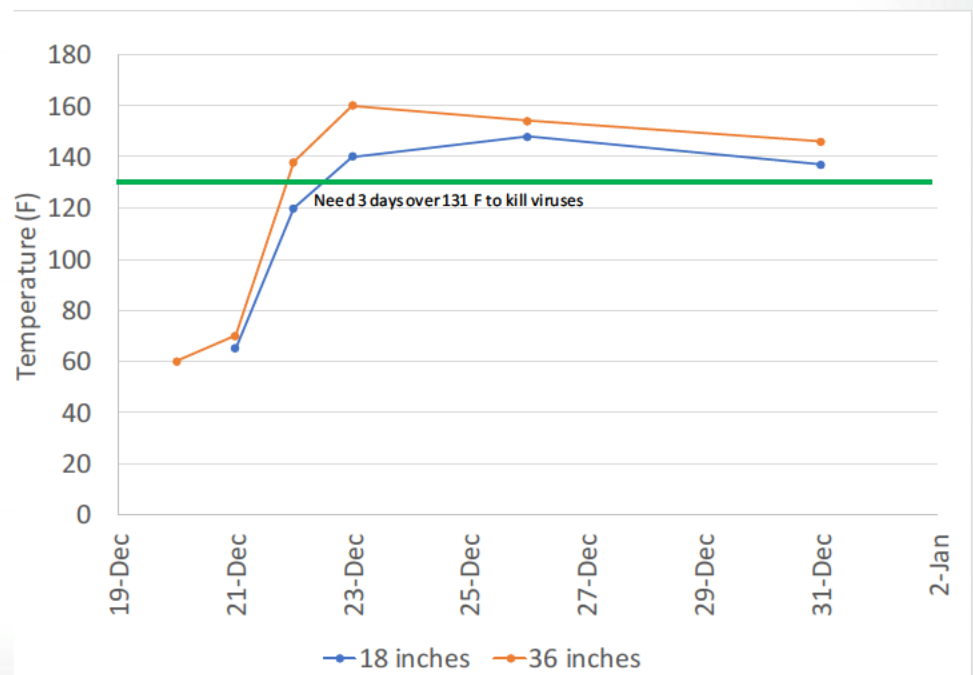
## Small-Scale Pre-Test

- Knowns

- Ground up pigs with carbon source compost very well
- 131 °F for 3 days = target conditions for virus inactivation\*

- Unknowns

- Can grinders be used off the shelf?
- Will virus particles escape the process?



Data from ground pig composting test in VA, Dec 2018

\*40 CFR Part 503



## EPA Objectives

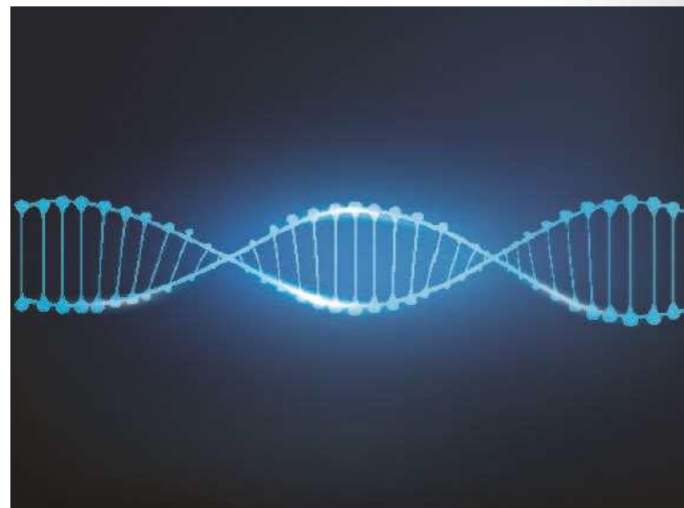
- Assess biosecurity of grinding operations
  - Focus on potential air emissions of viral particles
  - Modeling to support development of USDA/APHIS SOP
- Contributions to APHIS Standard Operating Procedure (SOP)
  - Distance from fenceline to set up grinding operations
  - Maximum wind speed for go/no go decision
  - Run several scenarios based on projected conditions in Iowa and NC





## Approach - Assumptions

- Assumption – mechanical grinding is not very effective at producing ultrafine ( $< 2.5 \mu\text{m}$ ) particles
- Assumption – grinding African Swine Fever Virus (ASFv)-impacted carcasses could result in virus being contained in larger aerosols, droplets and tissue particles post-grinding
- Assumption – majority of airborne particles produced by grinder are coming off end of conveyor belt as the material falls to ground and some gets entrained into the wind
- Porcine DNA as surrogate for infectious particles
  - PCR analysis of filters can generate numbers in units of ng pig DNA/ $\text{m}^3$





## Approach – Data Acquired

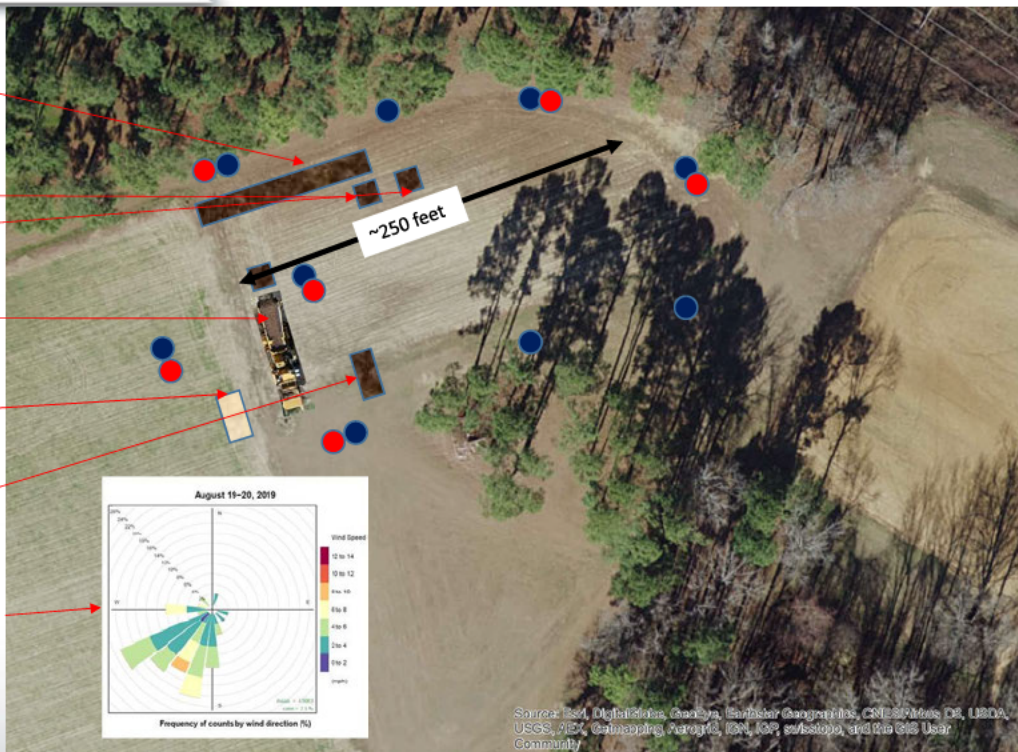
- Measure emissions from grinder for emission factor calculation
  - Position air sampling devices as close to end of conveyor where visible particles are being entrained into air
  - High Volume (1000 L/min) PM<sub>10</sub> sampler (catch PM < 10 µm)
  - Dry Filter Unit (DFU) (900 L/min) sampler (catch total filterable PM)
  - Emission factor in units of ng pig DNA/kg processed pigs
- Perimeter air monitoring
  - Hi Volume PM<sub>10</sub> sampler/DFU paired
  - Number of samplers limited to available equipment
- Meteorological data from the Horticultural Research Center





## Test Layout August 2019

Windrow  
AGB Test  
Locations  
Grinder  
Carcass Material  
Carbon



● EPA DFU Sampling  
Locations  
● EPA PM-10  
Sampling  
Locations

August Wind Roses





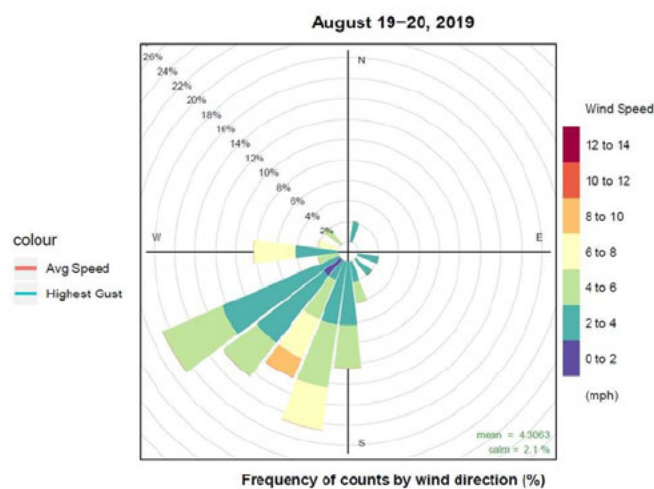
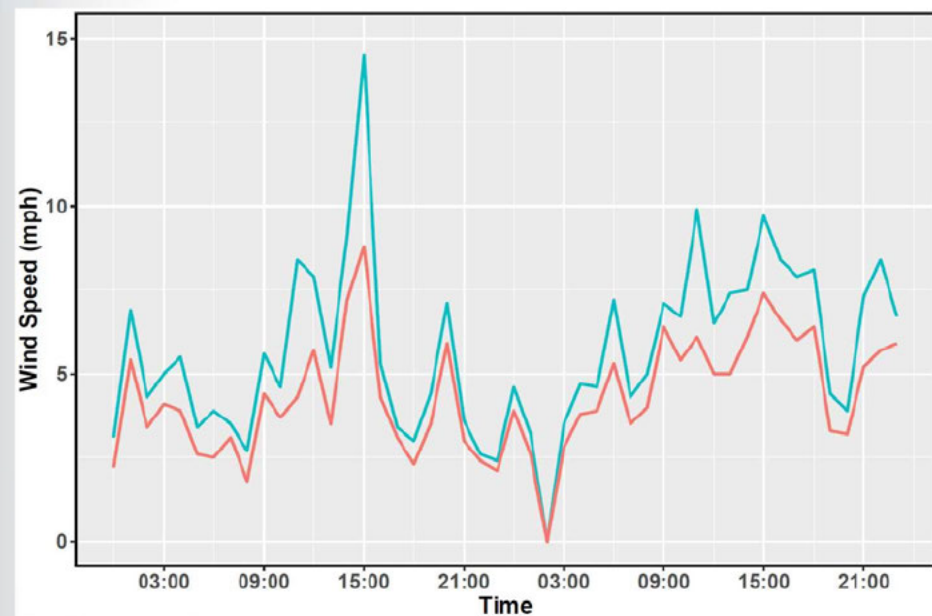
## Approach – Sampling Schedule

- February 21, 2019
  - Sampling with DFUs to test porcine DNA assay
- August 19, 2019
  - Background Sampling (1500-1600)
- August 20, 2019
  - Perimeter Sampling (0930-1600)
  - Grinder sampling test 1 (1035-1105)
  - Grinder sampling test 2 (1348-1425)
  - Downwind post-test sampling (1600-1700)





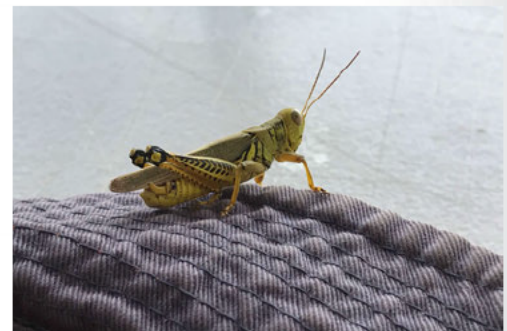
## Meteorological Conditions 8/19 – 8/20





## Limitations

- Were not able to acquire samples during pressure washing of grinder
- Not feasible to catch and analyze entire effluent from grinder
- Unable to sample PM emissions isokinetically like from a stack; samples may be biased towards smaller or larger particles



Uninvited Observers



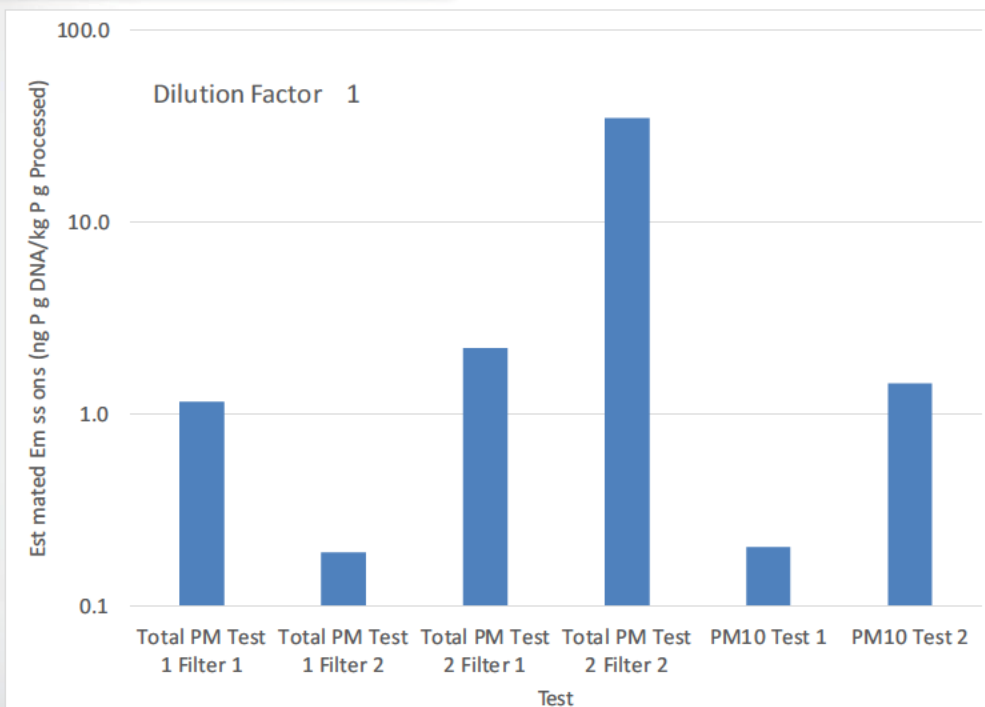


## August 20, 2019 Test Description

- Test 1
  - 11,325 kg of mortalities processed in 30 minutes
  - 22,650 kg/hr (1.2 million lb/day)
- Test 2
  - 15,402 kg of mortalities processed in 37 minutes
  - 24,650 kg/hr (1.3 million lb/day)
- DFU and High Volume PM<sub>10</sub> Sampler Co-Located at Grinder
- DFU at 8 perimeter locations
- High Volume PM<sub>10</sub> Sampler Co-Located with DFU at 5 Locations



## Estimating Emission Factor\* (ng pig DNA/kg Pig Mortality Processed)

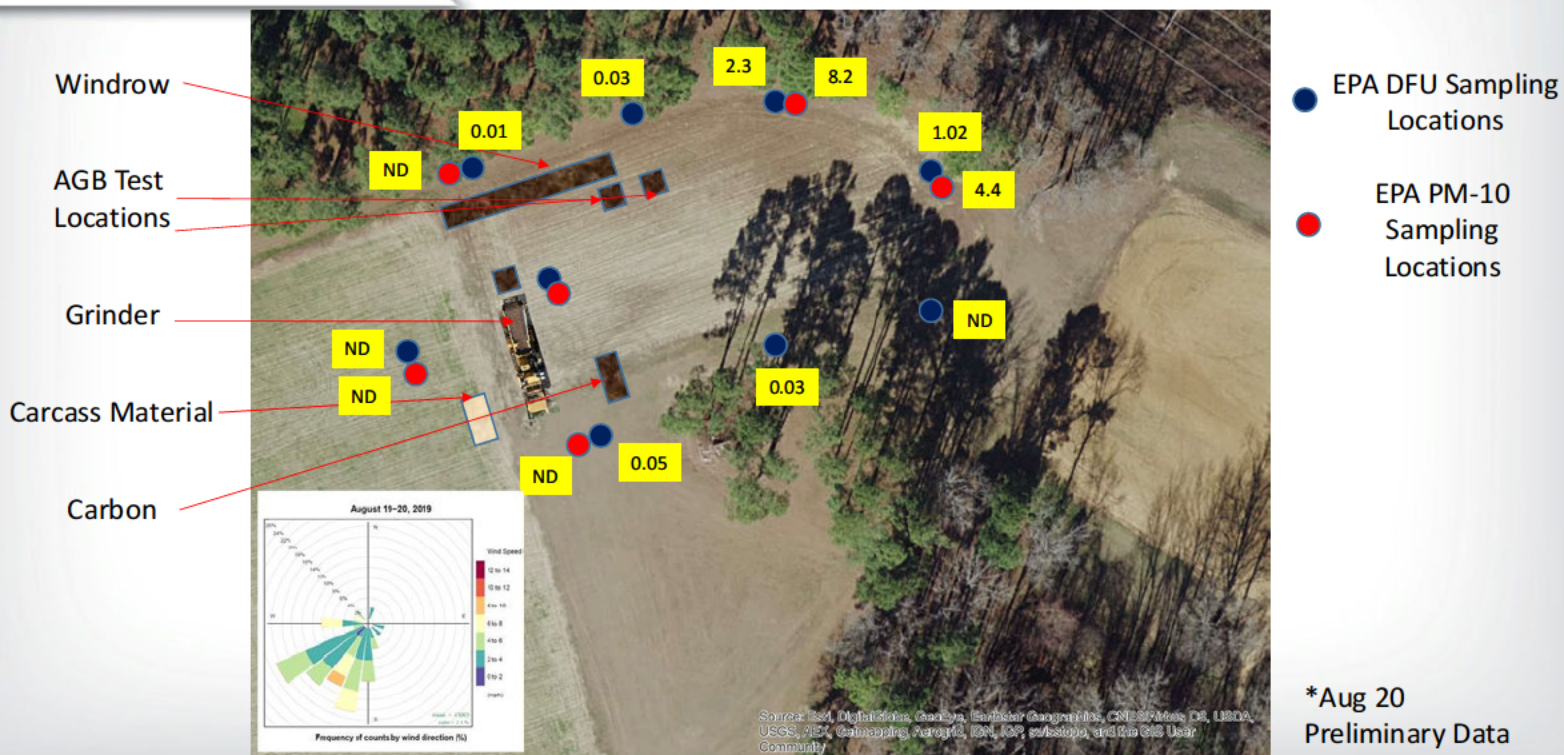


From initial observations, it appears that between 8 and 30% of the measured particulate was emitted as PM10 as measured at the conveyor belt outlet

\*Aug 20 Preliminary Data



## Perimeter Samples\* ng Pig DNA/m<sup>3</sup>





## Results from August 20 Test

- It appears that significant fractions of the particles emitted by grinding operation are in the PM<sub>10</sub> size fraction.
- Perimeter samples are consistent with that observation
- Perimeter sample concentrations are consistent with wind direction
- Big question – what is infectious dose and how can USDA include that parameter in these decisions?



## Next Steps

- Need to use air modeling to compare perimeter samples with emission factor estimates in order to estimate dilution factor
- Air modeling can be used to estimate fenceline concentrations at various distances from grinding operation
- Air modeling can be used to estimate wind speeds to determine go/no go decisions to commence grinding





## Disclaimer

DISCLAIMER: The U.S. Environmental Protection Agency through its Office of Research and Development collaborated in the research described here under Interagency Agreement 18-9200-0497 with USDA/APHIS. It has been subjected to the Agency's review and has been approved for publication. Note that approval does not signify that the contents necessarily reflect the views of the Agency. Mention of trade names, products, or services does not convey official EPA approval, endorsement, or recommendation.





## Contact Info

Paul Lemieux

US EPA

Office of Research and Development

Center for Environmental Solutions and Emergency Response

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919-541-0962 (w)

513-300-9958 (c)











# USDA-APHIS Record

**From:** Kirkland, Kim [<mailto:Kirkland.Kim@epa.gov>]  
**Sent:** Wednesday, April 15, 2020 1:31 PM  
**To:** Miller, Lori P - APHIS <[lori.p.miller@usda.gov](mailto:lori.p.miller@usda.gov)>  
**Cc:** Tschursin, Anna <[Tschursin.Anna@epa.gov](mailto:Tschursin.Anna@epa.gov)>; Kaps, Melissa <[Kaps.Melissa@epa.gov](mailto:Kaps.Melissa@epa.gov)>  
**Subject:** FW: EPA Programs for mortality disposal?

Hi Lori,

We received new questions (highlighted below) on another topic but could use your expertise. Any information you have on these questions, specifically regarding any resources available (on a federal or regional basis) to assist producers in these depopulation situations or information that should be included in the resource guide will be helpful. This is the second time this week we're engaged. It's great dialogue and thank you for support.

Kim M. Kirkland  
EPA Office Land and Emergency Management (OLEM)  
Chief, Waste Characterization Branch (WCB)  
Office Phone: 703-308-0490  
Office cell: 703-489-7082  
email: [kirkland.kim@epa.gov](mailto:kirkland.kim@epa.gov)

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**From:** Tschursin, Anna <[Tschursin.Anna@epa.gov](mailto:Tschursin.Anna@epa.gov)>  
**Sent:** Wednesday, April 15, 2020 1:00 PM  
**To:** Kirkland, Kim <[Kirkland.Kim@epa.gov](mailto:Kirkland.Kim@epa.gov)>; Kaps, Melissa <[Kaps.Melissa@epa.gov](mailto:Kaps.Melissa@epa.gov)>  
**Subject:** Re: EPA Programs for mortality disposal?

Short answer: we don't have any specific official guidance on this

Longer answer: we have worked quite extensively with ORD and APHIS on developing options for carcass management during any of a number of mass mortality situations. We can certainly provide input, but we don't have any sort of guidance document per se.

ORD (Paul Lemieux) have done some studies, but they are very technical and narrowly focused on the feasibility of using certain technologies (example large scale wood grinders for pig carcasses prior to composting, contamination studies when using a commercial rendering plant to dispose of carcasses etc.)

You can certainly give my name as the contact, and we can all work together to think through the issues. I happen to have a call with Paul on a different topic later today, and will mention this and see if we can set up something. In the meantime, I suggest just giving them my name, saying no official guidance exists but that we can work (with ORD and USDA) on some form of interim guidance? assuming you are OK with us doing that.

-Anna

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**From:** Kirkland, Kim <[Kirkland.Kim@epa.gov](mailto:Kirkland.Kim@epa.gov)>  
**Sent:** Wednesday, April 15, 2020 12:21 PM  
**To:** Tschursin, Anna <[Tschursin.Anna@epa.gov](mailto:Tschursin.Anna@epa.gov)>; Kaps, Melissa <[Kaps.Melissa@epa.gov](mailto:Kaps.Melissa@epa.gov)>  
**Subject:** FW: EPA Programs for mortality disposal?

Hi HS Team,

See the questions below and prepare a response. Let's discuss before we reach back with our response.  
Thanks.

Kim

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**From:** Perrin, Rebecca <[Perrin.Rebecca@epa.gov](mailto:Perrin.Rebecca@epa.gov)>  
**Sent:** Wednesday, April 15, 2020 12:06 PM  
**To:** Elliott, Ross <[Elliott.Ross@epa.gov](mailto:Elliott.Ross@epa.gov)>  
**Cc:** Smidinger, Betsy <[Smidinger.Betsy@epa.gov](mailto:Smidinger.Betsy@epa.gov)>; Smith, Mark A. <[Smith.Marka@epa.gov](mailto:Smith.Marka@epa.gov)>; Crossland, Andy <[Crossland.Andy@epa.gov](mailto:Crossland.Andy@epa.gov)>; Kirkland, Kim <[Kirkland.Kim@epa.gov](mailto:Kirkland.Kim@epa.gov)>; Bergman, Shawna <[Bergman.Shawna@epa.gov](mailto:Bergman.Shawna@epa.gov)>  
**Subject:** RE: EPA Programs for mortality disposal?

Thanks. They are creating a guide for their producers. I am not sure what will ultimately make the cut. I think they are looking for any guidance, web resources, etc. they can reference or include in their guide. I don't have more information about it than that, but I will follow-up with Kim and Shawna later today.

Thanks!

Rebecca Perrin  
Region 8 Agriculture Advisor | Office of the Regional Administrator | USEPA  
1595 Wynkoop Street (8ORA-IO) | Denver CO 80202 | DL: 303-312-6311 | FAX: 303-312-6882

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**From:** Elliott, Ross <[Elliott.Ross@epa.gov](mailto:Elliott.Ross@epa.gov)>  
**Sent:** Wednesday, April 15, 2020 9:51 AM

**To:** Perrin, Rebecca <[Perrin.Rebecca@epa.gov](mailto:Perrin.Rebecca@epa.gov)>

**Cc:** Smidinger, Betsy <[Smidinger.Betsy@epa.gov](mailto:Smidinger.Betsy@epa.gov)>; Smith, Mark A. <[Smith.Marka@epa.gov](mailto:Smith.Marka@epa.gov)>; Crossland, Andy <[Crossland.Andy@epa.gov](mailto:Crossland.Andy@epa.gov)>; Kirkland, Kim <[Kirkland.Kim@epa.gov](mailto:Kirkland.Kim@epa.gov)>; Bergman, Shawna <[Bergman.Shawna@epa.gov](mailto:Bergman.Shawna@epa.gov)>

**Subject:** RE: EPA Programs for mortality disposal?

Hi Rebecca, I am referring you to Kim Kirkland (cc'd here) in whose branch are staff that I think will best help with all three questions you ask, in terms of identifying guidance and expertise both w/in EPA and beyond (e.g. USDA). In your question #3, is the "producer resource guide" something specific, or just how you're describing what you are planning to send back to hog farmers?

I'm also copying Shawna Bergman on food waste resources in case she is aware of expertise on the question your asking.

Paul is a great resource, and I'm sure he'll have good advice -- but I heard he is pretty busy these days as well on PFAS and other things.

Let me know if you need additional followup. Thanks.

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**From:** Perrin, Rebecca <[Perrin.Rebecca@epa.gov](mailto:Perrin.Rebecca@epa.gov)>

**Sent:** Wednesday, April 15, 2020 11:20 AM

**To:** Elliott, Ross <[Elliott.Ross@epa.gov](mailto:Elliott.Ross@epa.gov)>

**Cc:** Smidinger, Betsy <[Smidinger.Betsy@epa.gov](mailto:Smidinger.Betsy@epa.gov)>; Smith, Mark A. <[Smith.Marka@epa.gov](mailto:Smith.Marka@epa.gov)>

**Subject:** EPA Programs for mortality disposal?

**Importance:** High

Ross,

Betsy Smidinger suggested I contact you.

R8 received questions about EPA resources related to animal mortality disposal from a national animal ag association. They are asking hog farmers to plan ahead and get in contact with local and state agencies prior to needing to thin/depopulate their herds due to packing plant closures. This would obviously be a worst case scenario but in uncertain times it makes sense to be thinking ahead.

I have connected them to Paul Lemieux (ORD) as they have been doing research with APHIS on hog mortality disposal in anticipation of African Swine Fever coming to the US.

We are also working a food waste angle to get them resources about donating food to food banks. They would need to check to see if local processors (no USDA inspector) could process meat before donation to local food banks. Non EPA regulations come into play on that one but we are working on getting them connected to the right people.

**Questions:**

- Can you tell me who on your staff would be the best person for me to refer them too?
- Does EPA have any resources available (on a federal or regional basis) to assist producers in these depopulation situations?
- Or is there anything from the EPA side that I should include in the producer resource guide?

Thanks for your assistance.

Rebecca Perrin

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Kirkland, Kim

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**From:** Kirkland, Kim  
**Sent:** Wednesday, April 15, 2020 3:44 PM  
**To:** Perrin, Rebecca  
**Cc:** Tschursin, Anna; Smidinger, Betsy; Smith, Mark A.; Miller, Lori P APHIS; Elliott, Ross  
**Subject:** RE: EPA Programs for mortality disposal?

d\plainHi Rebecca,

d\plain

d\plainIt was nice speaking with you this evening. As promised, below are the links from our good friends/colleagues at USDA which you may find useful. Also, feel free to reach back to Anna Tschursin of my staff works on Bio issues and also participated in the pig grinding project. You can list her for your contact and feel free to contact me anytime.

d\plain

d\li720\plainAPHIS Carcass Management Dashboard at  
[https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/emergency\\_management/carcass\\_management/carcass](https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/emergency_management/carcass_management/carcass) carcass managment

d\li720\plainNRCS resources at  
<https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/?cid=nrcseprd1361073>  
Assistance programs

d\plain

d\plainThank you,

d\plain

d\plainKim M. Kirkland



d\plainEPA Office Land and Emergency Management (OLEM)

d\plainMaterials Recovery and Waste Management Division (MRWMD)

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**d\plainFrom:** Perrin, Rebecca <Perrin.Rebecca@epa.gov>

**Sent:** Wednesday, April 15, 2020 2:00 PM

**To:** Kirkland, Kim <Kirkland.Kim@epa.gov>

**Subject:** RE: EPA Programs for mortality disposal?

d\plain

d\plainCurrent EPA resource that I am aware of on our website:

- <https://www.epa.gov/agriculture/agriculture and carcass disposal>
- <https://www.epa.gov/homeland security waste/carcass management during avian influenza outbreaks>

d\plain

d\plainCan I call you later today? I have a call in about a minute for an hour then I am free.

d\plain

d\plainThanks!

d\plain

d\plainRebecca Perrin

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**d\plainFrom:** Kirkland, Kim <[Kirkland.Kim@epa.gov](mailto:Kirkland.Kim@epa.gov)>

**Sent:** Wednesday, April 15, 2020 10:26 AM

**To:** Perrin, Rebecca <[Perrin.Rebecca@epa.gov](mailto:Perrin.Rebecca@epa.gov)>

**Subject:** RE: EPA Programs for mortality disposal?

d\plain

d\plainRebecca,

d\plain

d\plainThank you for your questions. I'm working with our Homeland Security team and will talk to

Ross about it later today.

d\plain

d\plain

d\plainKim M. Kirkland

d\plainEPA Office Land and Emergency Management (OLEM)

d\plainMaterials Recovery and Waste Management Division (MRWMD)

d\plainChief, Waste Characterization Branch (WCB)

d\plain1200 Pennsylvania Ave., NW (MC: 5304P)

d\plainWashington DC, 20460

d\plainOffice Phone:703 308 0490

d\plainOffice cell: 703 489 7082

d\plainFax: 703 308 8638

d\plainemail: [kirkland.kim@epa.gov](mailto:kirkland.kim@epa.gov)

d\plain

d\plainSend couriers to:

d\plainOne Potomac Yard

d\plain6h Floor, Room S 6641

d\plain2777 S. Crystal Dr.

d\plainArlington, VA 22202

d\plain

d\plain.."Making changes that improve the environment and the quality of people's everyday lives"....

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**d\plainFrom:** Perrin, Rebecca <[Perrin.Rebecca@epa.gov](mailto:Perrin.Rebecca@epa.gov)>

**Sent:** Wednesday, April 15, 2020 12:06 PM

**To:** Elliott, Ross <[Elliott.Ross@epa.gov](mailto:Elliott.Ross@epa.gov)>

**Cc:** Smidinger, Betsy <[Smidinger.Betsy@epa.gov](mailto:Smidinger.Betsy@epa.gov)>; Smith, Mark A. <[Smith.Marka@epa.gov](mailto:Smith.Marka@epa.gov)>; Crossland, Andy <[Crossland.Andy@epa.gov](mailto:Crossland.Andy@epa.gov)>; Kirkland, Kim <[Kirkland.Kim@epa.gov](mailto:Kirkland.Kim@epa.gov)>; Bergman, Shawna <[Bergman.Shawna@epa.gov](mailto:Bergman.Shawna@epa.gov)>

**Subject:** RE: EPA Programs for mortality disposal?

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d\plainThanks. They are creating a guide for their producers. I am not sure what will ultimately make the cut. I think they are looking for any guidance, web resources, etc. they can reference or include in their guide. I don't have more information about it than that, but I will follow up with Kim and Shawna later today.

d\plain

d\plainThanks!

d\plain

d\plainRebecca Perrin

d\plainRegion 8 Agriculture Advisor | Office of the Regional Administrator | USEPA

d\plain1595 Wynkoop Street (8ORA IO) | Denver CO 80202 | DL: 303 312 6311 | FAX: 303 312 6882

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**d\plainFrom:** Elliott, Ross <[Elliott.Ross@epa.gov](mailto:Elliott.Ross@epa.gov)>

**Sent:** Wednesday, April 15, 2020 9:51 AM

**To:** Perrin, Rebecca <[Perrin.Rebecca@epa.gov](mailto:Perrin.Rebecca@epa.gov)>

**Cc:** Smidinger, Betsy <[Smidinger.Betsy@epa.gov](mailto:Smidinger.Betsy@epa.gov)>; Smith, Mark A. <[Smith.Marka@epa.gov](mailto:Smith.Marka@epa.gov)>; Crossland, Andy <[Crossland.Andy@epa.gov](mailto:Crossland.Andy@epa.gov)>; Kirkland, Kim <[Kirkland.Kim@epa.gov](mailto:Kirkland.Kim@epa.gov)>; Bergman, Shawna <[Bergman.Shawna@epa.gov](mailto:Bergman.Shawna@epa.gov)>

**Subject:** RE: EPA Programs for mortality disposal?

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d\plainHi Rebecca, I am referring you to Kim Kirkland (cc'd here) in whose branch are staff that I think will best help with all three questions you ask, in terms of identifying guidance and expertise both w/in EPA and beyond (e.g. USDA). In your question #3, is the "producer resource guide" something specific, or just how you're describing what you are planning to send back to hog farmers?

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d\plainI'm also copying Shawna Bergman on food waste resources in case she is aware of expertise on the question your asking.

d\plain

d\plainPaul is a great resource, and I'm sure he'll have good advice but I heard he is pretty busy these days as well on PFAS and other things.

d\plain

d\plainLet me know if you need additional followup. Thanks.

d\plain

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**d\plainFrom:** Perrin, Rebecca <[Perrin.Rebecca@epa.gov](mailto:Perrin.Rebecca@epa.gov)>

**Sent:** Wednesday, April 15, 2020 11:20 AM

**To:** Elliott, Ross <[Elliott.Ross@epa.gov](mailto:Elliott.Ross@epa.gov)>

**Cc:** Smidinger, Betsy <[Smidinger.Betsy@epa.gov](mailto:Smidinger.Betsy@epa.gov)>; Smith, Mark A. <[Smith.Marka@epa.gov](mailto:Smith.Marka@epa.gov)>

**Subject:** EPA Programs for mortality disposal?

**Importance:** High

d\plain

d\plainRoss,

d\plain

d\plainBetsy Smidinger suggested I contact you.

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d\plainR8 received questions about EPA resources related to animal mortality disposal from a national animal ag association. They are asking hog farmers to plan ahead and get in contact with local and state agencies prior to needing to thin/depopulate their herds due to packing plant closures. This would obviously be a worst case scenario but in uncertain times it makes sense to be thinking ahead.

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d\plainQuestions:

- Can you tell me who on your staff would be the best person for me to refer them too?
- Does EPA have any resources available (on a federal or regional basis) to assist producers in these depopulation situations?
- Or is there anything from the EPA side that I should include in the producer resource guide?

d\plain

d\plainThanks for your assistance.

d\plain

d\plainRebecca Perrin

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# USDA-APHIS Record

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**d\plainFrom:** Kirkland, Kim [<mailto:Kirkland.Kim@epa.gov>]

**Sent:** Wednesday, April 15, 2020 1:31 PM

**To:** Miller, Lori P APHIS <[lori.p.miller@usda.gov](mailto:lori.p.miller@usda.gov)>

**Cc:** Tschursin, Anna <[Tschursin.Anna@epa.gov](mailto:Tschursin.Anna@epa.gov)>; Kaps, Melissa <[Kaps.Melissa@epa.gov](mailto:Kaps.Melissa@epa.gov)>

**Subject:** FW: EPA Programs for mortality disposal?

d\plain

d\plainHi Lori,

d\plain

d\plainWe received new questions (highlighted below) on another topic but could use your expertise. Any information you have on these questions, specifically regarding any resources available (on a federal or regional basis) to assist producers in these depopulation situations or information that should be included in the resource guide will be helpful. This is the second time this week we're engaged. It's great dialogue and thank you for support.

d\plain

d\plainKim M. Kirkland

d\plainEPA Office Land and Emergency Management (OLEM)

d\plainChief, Waste Characterization Branch (WCB)

d\plainOffice Phone:703 308 0490



d\plainOffice cell: 703 489 7082

d\plainemail: [kirkland.kim@epa.gov](mailto:kirkland.kim@epa.gov)

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**d\plainFrom:** Tschursin, Anna <[Tschursin.Anna@epa.gov](mailto:Tschursin.Anna@epa.gov)>

**Sent:** Wednesday, April 15, 2020 1:00 PM

**To:** Kirkland, Kim <[Kirkland.Kim@epa.gov](mailto:Kirkland.Kim@epa.gov)>; Kaps, Melissa <[Kaps.Melissa@epa.gov](mailto:Kaps.Melissa@epa.gov)>

**Subject:** Re: EPA Programs for mortality disposal?

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d\plainShort answer: we don't have any specific official guidance on this

d\plain

d\plainLonger answer: we have worked quite extensively with ORD and APHIS on developing options for carcass management during any of a number of mass mortality situations. We can certainly provide input, but we don't have any sort of guidance document per se.

d\plain

d\plainORD (Paul Lemieux) have done some studies, but they are very technical and narrowly focused on the feasibility of using certain technologies (example large scale wood grinders for pig carcasses prior to composting, contamination studies when using a commercial rendering plant to dispose of carcasses etc.)

d\plain

d\plainYou can certainly give my name as the contact, and we can all work together to think through the issues. I happen to have a call with Paul on a different topic later today, and will mention this and see if we can set up something. In the meantime, I suggest just giving them my name, saying no

official guidance exists but that we can work (with ORD and USDA) on some form of interim guidance? assuming you are OK with us doing that.

d\plain

d\plain Anna

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**d\plainFrom:** Kirkland, Kim <[Kirkland.Kim@epa.gov](mailto:Kirkland.Kim@epa.gov)>  
**Sent:** Wednesday, April 15, 2020 12:21 PM  
**To:** Tschursin, Anna <[Tschursin.Anna@epa.gov](mailto:Tschursin.Anna@epa.gov)>; Kaps, Melissa <[Kaps.Melissa@epa.gov](mailto:Kaps.Melissa@epa.gov)>  
**Subject:** FW: EPA Programs for mortality disposal?

d\plain

d\plainHi HS Team,

d\plain

d\plainSee the questions below and prepare a response. Let's discuss before we reach back with our response. Thanks.

d\plain

d\plainKim

d\plain

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**Cc:** Smidinger, Betsy <[Smidinger.Betsy@epa.gov](mailto:Smidinger.Betsy@epa.gov)>; Smith, Mark A. <[Smith.Marka@epa.gov](mailto:Smith.Marka@epa.gov)>; Crossland, Andy <[Crossland.Andy@epa.gov](mailto:Crossland.Andy@epa.gov)>; Kirkland, Kim <[Kirkland.Kim@epa.gov](mailto:Kirkland.Kim@epa.gov)>; Bergman, Shawna <[Bergman.Shawna@epa.gov](mailto:Bergman.Shawna@epa.gov)>  
**Subject:** RE: EPA Programs for mortality disposal?

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